



◀ Photo left: View to a modern X-ray diffractometer. An outstanding feature of the X-ray CoreLab is the in-situ analysis of structural phase transitions, the investigation of structure, microstructure and texture of thin layers, as well as the analysis of internal tensions in materials.

HZB Helmholtz
Zentrum Berlin

HZB CoreLabs

The mission of HZB focuses on energy materials research for a sustainable, economic and secure energy supply in the future. To ensure and strengthen our position on this topic we establish a new CoreLab platform dedicated to research and development of new and improved materials for energy conversion and storage applications as well as energy-efficient future IT. These CoreLabs provide state-of-the-art laboratories and unique equipment and will serve the wider scientific community by offering services and user access to external academic and industrial partners.

EMIL

Energy Materials
In-situ Laboratory
Berlin at BESSY II

X-Ray

Various X-Ray
diffraction sources

CCMS

Correlative
Microscopy and
Spectroscopy

HySPRINT

Hybrid Silicon
Perovskite Research,
Integration & Novel
Technologies Berlin

HZB will maintain a central web-based access point that informs the users of the capabilities and possibilities offered by the CoreLabs.

CONTACT

corelabs@helmholtz-berlin.de

Please find more
information on: <http://hz-b.de/corelabs>



AT A GLANCE

HZB is a research centre for energy materials research and contributes to knowledge-based solutions to great societal challenges. Research topics are thin film materials for energy conversion, energy storage with solar fuels and energy efficient future information technology integrating excellent research with the operation of dedicated infrastructures – like the synchrotron radiation source BESSY II, dedicated CoreLabs and Joint Labs with universities.



HZB QUICK FACTS

- Approximately 1,100 staff
- Total budget amounts to approx. 146 million Euros
- About 100 PhD students candidates from neighbouring universities
- HZB is collaborating with about 400 different German and international universities, research institutes, and companies
- HZB is a member of the Helmholtz Association

www.helmholtz-berlin.de

Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (HZB), Hahn-Meitner-Platz 1, 14109 Berlin
info@helmholtz-berlin.de

Fotonachweise: HZB; Luftbild von Dirk Laubner

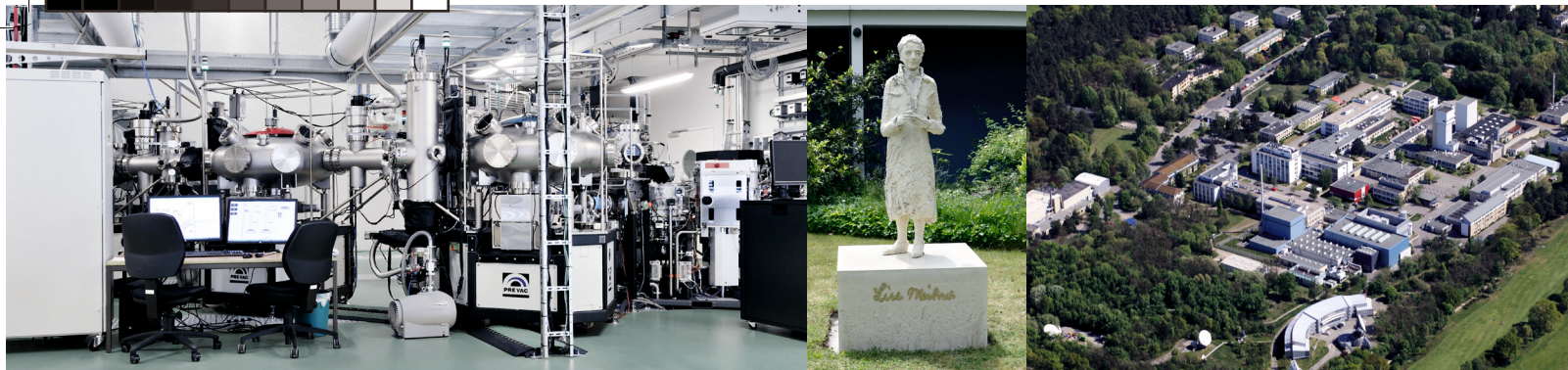
FOCUSING ENERGY REALISING VISIONS



MORE THAN A SYNCHROTRON

HEMF and CoreLabs

New infrastructures
for current and future users



◀ Photos left: View into the EMIL Lab (left) and aerial view to the Lise-Meitner Campus of HZB in Wannsee (right).

HEMF

THE HELMHOLTZ ENERGY MATERIALS FOUNDRY

The Helmholtz Energy Materials Foundry (HEMF) is envisaged as a new large-scale collaborative research-and-development platform dedicated to the synthesis of new and improved materials for energy conversion and storage applications. It will consist of state-of-the-art laboratories and equipment to be added to existing facilities that are distributed over the six participating Helmholtz centres.

HEMF will serve the scientific community by offering services and user access to external partners. The scientific focus of the foundry will be on materials and applications in the field of solar cells, solar fuels, fuel cells, batteries, thermoelectrics and thermochemistry, with catalysis as an overarching theme. HEMF will be operated as an international user facility for both academic and industrial partners. Each participating Helmholtz centre will offer

facilities that optimally enhance its existing scientific infrastructure, and provide the best match to its established expertise.

As the coordinating centre, HZB will maintain a central web-based access point that informs the users of the capabilities and possibilities offered by the HEMF platform.

CONTACT

hemf@helmholtz-berlin.de

Please find more information on: www.hemf.eu



HZB CoreLabs

A NEW MULTI-USER PLATFORM

EMIL

is a preparation and analysis laboratory for a variety of materials for the sustainable energy supply. EMIL provides five end-stations and three beam lines that can simultaneously access soft and hard X-rays (80 eV – 10 keV). EMIL comprises all characterization and deposition facilities in one integrated UHV system.

X-RAY DIFFRACTION

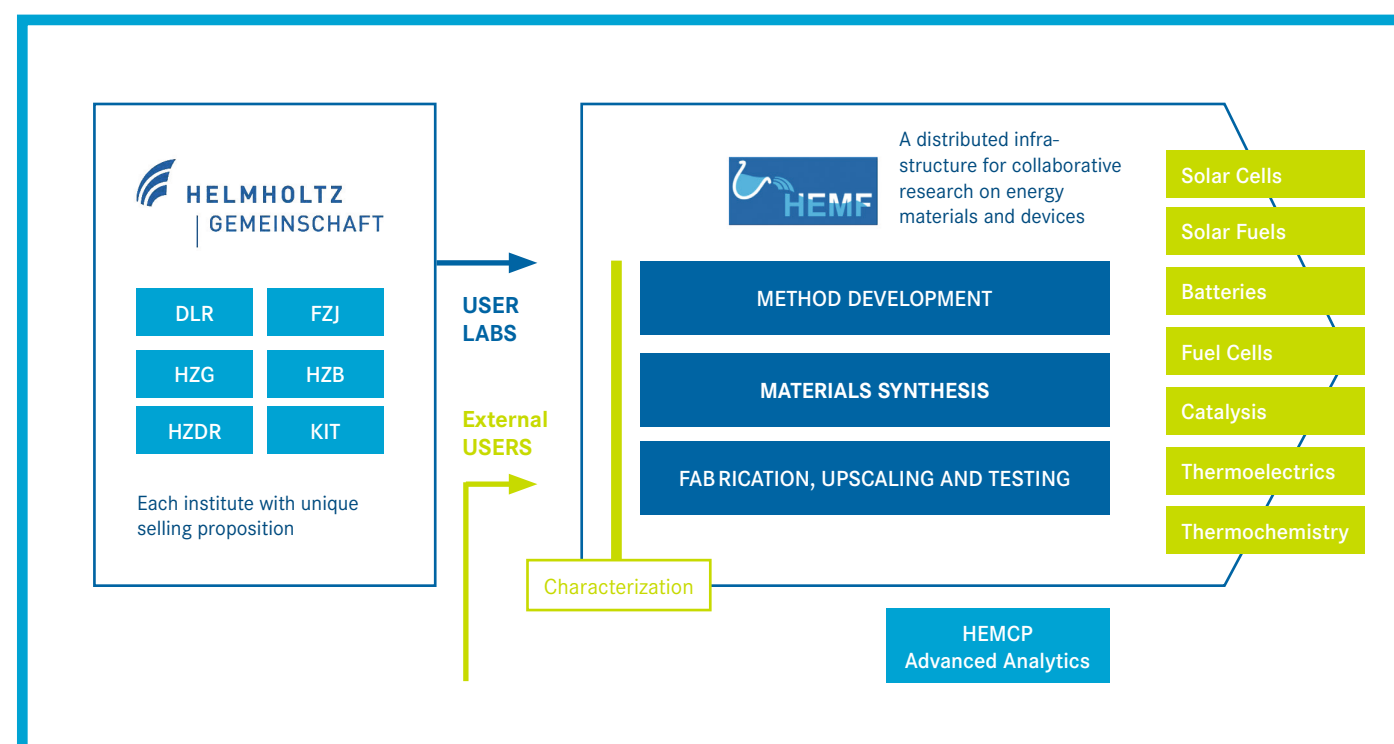
covers different modern X-ray diffraction methods focusing on in-situ studies of phase transitions and texture analysis. In addition two high-flux Metaljet X-ray sources open up new scientific fields.

CCMS

is a CoreLab to conduct cutting-edge research on novel materials with the most modern ZEISS electron microscopes available. CCMS is participating in the ZEISS labs@location programme.

HySPRINT

is a new Helmholtz Innovation Lab which will focus on hybrid materials and components based on silicon and perovskite crystals. These promising new compounds will be used for energy conversion in photovoltaics as well as for solar hydrogen production.



HEMF is a new large-scale collaborative research-and-development platform operated by 6 Helmholtz centres.